

Submission on Proposed Water Permits Plan Change (Plan Change 7) to the Regional Plan: Water for Otago

Clause 5 First Schedule, Resource Management Act 1991

To: Otago Regional Council
By e-mail policy@orc.govt.nz

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- We could not gain an advantage in trade competition through this submission.
- The specific provisions of the proposal that our submission relates to and the decisions we seek from the Council are detailed on the following pages.
- We wish to be heard in support of our submission.
- If others made a similar submission, we **will** consider presenting a joint case with them at the hearing.

Signature of submitter



Date: 4 May 2020

Submission on Plan Change 7 (PC7)

Maerewhenua District Water Resources Company Limited (the submitter) holds a resource consent to use water in the Otago Region (the take is from the Canterbury Region). This is RM13.046.01 and it expires on 9 December 2046 and therefore is not directly affected by the provisions of PC7. However, from its experience with previous plan changes in Otago and Canterbury, the submitter is aware of precedent setting. This is of particular concern to the submitter given that Otago Regional Council is embarking on a process to review its entire water plan in the coming years. In this instance, the submitter is requesting outcomes that it considers are practical, and if carried forward into coming plan changes, it has some level of comfort with.

The submitter seeks the following decisions from the Otago Regional Council:

- 1.1 that the decisions sought in **Annexure A** to this submission be accepted;
and/or
- 1.2 alternative amendments to the provisions of PC7 to address the substance of the concerns raised in this submission; and
- 1.3 all consequential amendments required to address the concerns raised in this submission and ensure a coherent planning document.

ANNEXURE A – REASONS FOR SUBMISSION AND DECISIONS SOUGHT BY MAEREWENUA DISTRICT WATER RESOURCE COMPANY LIMITED

(1) The specific provisions of Proposed Plan Change 7 (PC7) that the submission relates to are:		(2) Our submission is that:	(3) We seek the following decisions from the Otago Regional Council (Note: amendments sought to the text of PC7 are shown in tracked changes, with additions shown in <u>underline</u> and deletions shown in strikethrough).								
Sub-section/ Point	Oppose/ support (in part or full)	Reasons									
Method 10A.4	Oppose in full	<p>Method 10A.4 is fraught for the following reasons:</p> <ul style="list-style-type: none"> It encourages those wanting to retain access to water in the future to take as much water as possible in the time leading up to the next plan change – use it or lose it mentality leads to inefficient water use, and more water diverted, taken or used than would otherwise potentially be. The July 2012 to June 2017 is a very small period of time. Fails to take into account seasonal demand and therefore variation in water diverted, taken or used. Does not consider how much water is actually needed. Investment in better irrigation infrastructure is disincentivised. Forces a reduction in allocation for which there is no basis for at this point in time (environmental or otherwise). While this may only be an interim plan, if accepted by the Council for PC7, it sets a precedence for the upcoming review of the entire water plan. The method is not consistent with what other regional councils have implemented. <p>Our proposed method has three options:</p> <p>Option 1 is records of past use but moderated to meet demand conditions that occur in nine out of ten years.</p> <p>Option 2 allows for other field validated models to be used. An example of this is Irricalc.</p> <p>Option 3 is requiring knowledge of soil PAW on farm, as well as effective irrigation season rainfall. Soil information is readily available on S-Maps. Rainfall data can be obtained from any long-term climate station, or many farmers have daily rainfall records that can be used.</p>	<p>Amend Method 10A.4 to read:</p> <p><u>Three methods are provided for determining the seasonal irrigation demand.</u></p> <ol style="list-style-type: none"> <u>Records of past use, moderated to ensure the annual volume is sufficient to meet demand conditions that occur in nine out of ten years for a system with an irrigation application efficiency of 80%; or</u> <u>Use of a model that has been field validated and shown to reliably predict annual irrigation volume within an accuracy of 15%. The annual volume calculated using the model shall be compliant with the following criteria:</u> <ol style="list-style-type: none"> <u>an irrigation application efficiency of 80%;</u> <u>a system capacity to meet peak demand;</u> <u>a nominal irrigation season from 1 September to 30 April; and</u> <u>demand conditions that occur in nine out of ten years.</u> <u>Using the methodology set out below and the figures set out in Table 10A.4.</u> <p><u>To determine the applicable seasonal irrigation demand standard and derive an annual volume:</u></p> <ol style="list-style-type: none"> <u>find the total seasonal demand from Table 10A.4 for the particular soil PAW class. Where the soil PAW class is between 100 - 200 mm, insert the appropriate PAW for the soil to be irrigated into the formula to determine the total seasonal demand;</u> <u>determine effective irrigation season rainfall for the location;</u> <u>deduct this rainfall amount from the total seasonal demand amount to give the irrigation requirement in millimetres – this provides the seasonal irrigation demand standard;</u> <u>adjust this seasonal irrigation demand standard by multiplying by 10 to find the volume of water (cubic metres) per hectare per season; and</u> <u>multiply this amount by the area that is to be irrigated to give the annual volume.</u> <p><u>Table 10A.4</u></p> <table border="1"> <thead> <tr> <th><u>Soil PAW Class</u></th> <th><u>Total Seasonal Demand</u></th> </tr> </thead> <tbody> <tr> <td><u>< 100 mm</u></td> <td><u>910 mm</u></td> </tr> <tr> <td><u>100 – 200 mm</u></td> <td><u>910 -1.6(PAW-100) mm</u></td> </tr> <tr> <td><u>>200 mm</u></td> <td><u>750 mm</u></td> </tr> </tbody> </table>	<u>Soil PAW Class</u>	<u>Total Seasonal Demand</u>	<u>< 100 mm</u>	<u>910 mm</u>	<u>100 – 200 mm</u>	<u>910 -1.6(PAW-100) mm</u>	<u>>200 mm</u>	<u>750 mm</u>
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			<p><u>Soil PAW Class</u> represents the upper and lower limits of the soils that are generally irrigated in Otago in terms of the profile available water (PAW) of the soils. Between the upper and lower limits set out in Table 10A.4, a sliding scale is used to determine the relevant total seasonal demand.</p> <p><u>Total seasonal demand</u> is the total amount of water required to satisfy plant water needs during the main growing period. This demand can be satisfied by rainfall and irrigation. In determining the irrigation component, provision has been made for:</p> <ol style="list-style-type: none"> 1. <u>an irrigation application efficiency of 80%;</u> 2. <u>a system capacity to meet peak demand (between 4mm/ha/day and 6.5 mm/ha/day);</u> 3. <u>a nominal irrigation season from 1 September to 30 April;</u> 4. <u>demand conditions that occur in nine out of ten years; and</u> <p><u>Effective irrigation season rainfall</u> is the amount of rain that will contribute to crop growth over the nominal irrigation season. In determining this amount, provision has been made for:</p> <ol style="list-style-type: none"> 1. <u>rainfall that occurs on average in six out of ten years (which, together with a complementary seasonal irrigation allowance, is estimated to meet total water demand with a reliability of nine out of ten years based on analysis of long-term climate data); and</u> 2. <u>excluding daily rainfall amounts of less than 5 mm, or cumulative rainfall amounts in consecutive days in excess of 50 mm.</u> <p><u>Seasonal irrigation demand standard</u> for a given soil PAW the depth of water (measured in millimetres) per hectare per year required to be supplied by irrigation to satisfy plant water demand after allowing for effective irrigation season rainfall.</p>
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